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The relationship between parent's mental health and professional functioning and students' e-learning burnout and well-being during the COVID-19 pandemic

Związek zdrowia psychicznego i funkcjonowania zawodowego rodziców z dobrostanem, psychicznym i wypaleniem nauką zdalną uczniów w czasie pandemii COVID-19

Abstract: Student burnout is an issue rarely analysed in Polish literature, and even fewer studies take into account the knowledge of parents about such an educational problem. So far, only a few studies have focused on the psychological characteristics of parents related to school burnout, such as the quality of family relationships, attachment style, parental attitudes or upbringing style. However, there are no studies in the literature that take into accountboth the children's and the parents' psychological characteristicsassociated with school burnout.Therefore, the main aim of the current study was to test whether mental health and parental professional functioning characteristics are related to the student online school burnout syndrome during the COVID-19 pandemic. The analysis covered 29 parent-adolescent dyads. The study procedure consisted of set of psychological methods: the e-learning burnout scale (ESBS), psychological well-being scale (PBW) fulfilled by adolescents, the observation scale of student burnout symptoms for parents and teachers (SBO), mental health scale (GHQ), the Flow at work scale, and online job burnout scale fulfilled by parents. In the entire group

of respondents, the significant relationship between the student burnout symptoms perceived by parents and the online school burnout from the students'perspective was confirmed. Student burnout with distance learning correlated positively with the mental health problems of parents and negatively with the well-being of students. Student burnout from distance learning did not significantly correlate with work flow and online job burnout of parents. The findings indicated the importance of the simultaneous evaluation of the problem of educational burnout bythe parent-adolescent dyad. In this context, the active involvement of parents in preventive interventions regarding the mental health of their children can be an important factor contributing to minimising the risk of developing school burnout symptoms.

Keywords: mental health, online burnout, parent-adolescent dyad, COVID-19 pandemic.

Introduction

Burnout syndrome has numerous theoretical approaches. In the first concept on burnout, Freudenberg points out that burnout is associated with a state of exhaustion (physical, behavioural or psychological) and the individual's experience of a state of frustration (this state often results from a person's efforts which, despite a large individual contribution, do not produce the intended results) (Freudenberg, 1974). Bubble (1992), on the other hand, links burnout to stress and its two faces (socio-cultural and occupational). Thinking about the socio-cultural perspective, an individual experiences permanent disappointments at the existential level, while occupational stress refers to conditions and the work environment. Maslach (2011) emphasises that burnout means a loss of concern for the other person, with a partial dehumanisation of the relationship occurring between the burned-out person and the person being helped in the broadest sense. Schaufeli et al. (2002) recognize that emotional burnout is prompted by mental overload resulting from the responsibilities an individual has.The most comprehensive framework of burnout is the Job Demands –Resources model (JD-R model), also successfully implemented in educational settings (student demands-resources model, SD-R model); it refers to overwhelming educational demands and depletion of the personal, social and organisational resource, the factors related to the emergence of student burnout symptoms (Demerouti et al., 2001; Lesener et al., 2020).

Online student burnout during Covid-19

Mental, emotional, social, and organisational demands related to student functioning are strongly related to students' strain and exhaustion (Jagodics, Szabó, 2022). Mental demands can be defined as cognitive tasks (academic studies), that are cognitively challenging and contribute to maintaining a high level of concentration and precision for many hours, mental effort, time pressure, and multi-tasking,e.g. the vast number of hours spent on learning, the number of various classes or the amount of study material (Lesener et al., 2020). In educational contexts, emotional demands are related to psychological distress during exams and tests, performance anxiety, and a feeling of insufficient skills, which may contribute to a harmful emotional load and dysregulation,e.g. negative affect, anxiety, and depression. Another important contributor to the formation of student burnout is social demands, namely negative relationships with classmates or lecturers,e.g. bullying and victimisation, conflicts with peers or teachers, lack of teacher's fairness or credibility, lack of social support from important others (parents, friends, teachers), school alienation and loneliness (Tomaszek, 2020; Tomaszek and Muchacka-Cymerman, 2020; Vincent-Höper et al., 2020). On the other hand, organisational demands, perceived as physical factors hindering the learning process e.g. small classes, lack of air, and lack of access to contemporary sources of knowledge (e.g. Internet, new books), are also considered to be important, because students who could not feel comfortable are unable to concentrate on learning and could easily become less committed.

Each of the theories cited above can provide a rationale to the context of online student burnout during the COVID-19 pandemic, and to look at an individual who has experienced the destabilisation of his/her entire life to date. The education system has undoubtedly encountered many difficulties in the transition to a remote mode of work (including lack of access to platforms on which to teach, lack of skills to use these programs, or lack of materials to make classes more interesting). According to a study conducted by Gonzalez-Ramirez et al. (2021), students most often struggled with the quality of Wi-Fi, finances and adequate space to take classes. In addition, what students pointed out and what clearly bothered them during the pandemic was the reduction or complete elimination of their time with friends from their schedule. Equally difficult was the time when students could not stay in contact with their teachers. An additional negative aspect of remote teaching was also the fact that it was impossible to maintain healthy eating habits and physical activity. Students admitted that all factors contributed to higher levels of exhaustion, while there were also factors that improved

performance, i.e. changing students' learning strategies into a more continuous habit, which improved their performance. The above-mentioned changes in the educational process created additional study demands that have a detrimental effect on students' mental health and academic performance. The longitudinal studiesconducted during the COVID-19 pandemic by Salmela-Aro et al. (2022) showed that study burnout increased across time points, whereas study engagement was lower. Further, the authors stated that the role of psychological needs frustration increased. According to Bolatov et al. (2021), the most noticeable increase was found in the social-relational aspect of burnout. Students who were cut off from any relationship with others (e.g. lived alone) showed higher susceptibility to depression.

These findings suggest the importance of analysing student burnout from an ecological perspective. Bronfenbrenner's (1999) ecological theory emphasises the impact of the social environment on the formation of the individual. According to the theory, the environment is a set of interrelated five systems: the microsystem refers to the group that has direct contact with the individual (teachers, parents, peers); the mesosystem describes the reciprocal relationship of the members of the mesosystem (parents-teachers); the exosystem refers to elements that can affect the individual indirectly (the parent's job, his or her workload with it); the macrosystem consists of elements of culture; and the chronosystem is a reference to the individual's life stage and the perception of various life situations from a changing point of view (for example, the illness of loved ones will be perceived differently by a child as opposed to an elderly person). Thus, a change in the environment can have a tremendous impact on the functioning and well-being of an individual. In addition, a change in the system can also happen by changing the role of a member of one of the systems.The ecological transition from the known to the new microsystem should be seen in terms of a developmental task. The child enters such a task many times during education, as each time the child changes the educational level or there are significant changes in the system itself, the student faces the new demands and is forced to use all types of resources to meet them. During such a transition, well-learned knowledge and mastered skills can present at a lower level than the real ones (Olechowska, 2020).

The outbreak of the COVID-19 pandemic was the contextual factor that has changed all systems in which the child functions, especially in regard tothe microsystem. It forced children and the educational microsystem to enact tremendous changes, thus both children and teachers had to confront their readiness to start functioning in an online educational environment, and

this microsystem had to change the well-known and commonly used instruments (face-to-face contact) to upbringing and educating young people by distance learning,e.g.online class sessions, face-to-face to virtual instruction, and seminars to webinars. The studies conducted by Gallup in 2020 revealed that three in ten parents confirmed that their child was "experiencing harm to [their] emotional or mental health", and 45% pointed to the separation from teachers and classmates as a "major challenge" (Calderon, 2020); at the same time, academic disruption was observed (mostly math and reading) by the researchers (Idris et al., 2020). The above-mentioned stressful changes in the microsystem seems to increase the risk of developing educational problems, e.g. student burnout syndrome. This is because, symptoms of burnout are strongly related to the environmental context, namely the most important being the two-way interactions in the microsystem e.g. student – teacher, student–student and student – parent. A student enters into a specific role that is associated with education, but also with social functioning. In the microsystem, the most important is a safe learning environment and positive social interactions. From this perspective student burnout may increase if the core psychological and educational needs are not supported by important others. Family cohesion influences adolescents' actions, socio-emotional development, and well-being (Deng et al., 2022). The relationship that a parent forms with his/her child can have a significant impact on the child's school functioning (Yuan et al., 2016) both positive, i.e. support from the parent, and negative, such as the inadequate child syndrome. The patterns of dyadic conflict during parent–adolescent interactions were found to be a significant predictor of adolescent depression (Zhang et al., 2022). Specifically, adolescents' and parents' conflict behaviors were positively associated with depressive symptoms when parent–adolescent conflict dynamics were more organized and predictable. Furthermore, the recently conducted studies confirmed a huge importance of parents negative beliefs about adolescence which may be beneficial for the quality of parenting and the experience of being a parent but is also positively related to parental burnout (Zimmermann et al., 2022). According to a study conducted by Hertz et al. (2017), children who established better quality interactions with their fathers experienced, in the perception of teachers, fewer problems in school functioning. Research by Edwards et al. (2008) describe three dimensions as key to parental involvement – these include warmth and sensitivity, support for child autonomy, and active participation in learning. In addition, the authors note the increase in cognitive, social-emotional and self-regulatory competencies positively associated with the parent-child dyad. The important role of the parent-child

relationship in school effectiveness is also pointed out by Yuan et al. (2016). According to the study, both parent-child relationships and self-efficacy are related to students' academic performance, and self-efficacy mediated the relationship between the parent-child relationships and school performance (Yuan et al., 2016).

Family environment and Student burnout

The results of a study by Videon (2005) show the significant role of father-child relationships for children's psychological well-being. In contrast, another study by Kim et al. (2020) on autobiographical memory suggest that the processing of negative affect and the personality of autobiographical memories are clearly involved depending on parent and situational valence. The research highlights the impact of memory on an individual's mental health. The environment in which a child grows up has a significant impact on his/her development, mental, physical and social functioning. It also largely shapes the individual, his/her personality, self-confidence, and knowledge of his/her resources. According to a study conducted by Luo et al. (2020), students who were characterised by low self-control were more likely to experience burnout in the family environment. This environment was characterised by a lack of intimacy. On the other hand, a higher level of self-control served the function of protecting students from burnout while living in an unfavourable family environment, in which there was more conflict and less intimacy. In addition, the socioeconomic status of the family is significant in the occurrence of burnout related to children's learning (Luo et al., 2016). According to research, the quality of family relationships is a significant predictor of the level of exhaustion with school activities (Tomaszek& Muchacka-Cymerman, 2020). It follows that poorer quality of family relationships increases the likelihood that a student will experience homework overload. In addition, better quality of family relationships is a predictor of student activity exhaustion at school.

Study questions

The studies mentioned above confirm the unquestionable regularity that the positive family environment is crucial for the holistic development of a child. Despite this fact, very little is known about the associations between parents' psychological and professional characteristics and their children's educational problems and well-being. What is more, to our knowledge there have been no attempts yet to explore parents' beliefs about their children's burnout syndrome during the COVID-19 pandemic. Thus, the main goal of the current study was to examine the relationship between mental health and

parental professional functioning characteristics and online student burnout syndrome and well-being during the COVID-19 pandemic. Specifically, four study questions were explored:

1. What are the main difficulties related to online learning from the parents' and adolescents' perspective?
2. What kind of student burnout symptoms are mostly perceived by parents? Do student burnout levels from the perspective of parents and adolescents correlate to each other?
3. Do parents and student burnout correlate to each other?
4. Are parents' mental health problems and occupational functioning associated with their children's school burnout and well-being?

The following study hypothesis were examined: (H1) Burnout symptoms perceived by parents will positively correlate to burnout symptoms experienced by adolescents. (H2) Higher parents' job burnout will be positively related to higher adolescents' student burnout. (H3) Parents' mental health problems and occupational functioning will be positively associated to student burnout symptoms.

Methods

Participants and Procedure

A total of 200 families were addressed to participate in this cross-sectional study from 12 schools from different parts of Poland, of which 93% of adolescents and only 17% of parents agreed to participate in the online research. The dyads were selected randomly through the adolescents' schools, where information about the project was developed by teachers via emails. Parent –adolescent dyads consist of a mother–child (25 dyads) or father–child (4 dyads).The analysis included 29 parent–adolescent dyads (5 parents were excluded because of lack of fulfilled methods by the adolescent). The study was conducted during the spring of 2021. Descriptive anthropometric and educational characteristics of the final set of dyads are presented in Table 1.

Table 1. Descriptive statistics

Anthropometric and educational characteristics	Parent	Adolescent
Age (M, SD)	44.31(6.85)	15.35(1.82)
Min./Max. years	33.0/63.0	12.0/19.0
Gender		
Female	30	17
Males	4	12
The quality of relationships with Parents (M,SD)	2.79(.41)	2.72(.53)
1 – weak	0	1
2-average	6	6
3- good	23	22
The level of school stress	3.41(.53)	
The parent's opinion on educational functioning of adolescent		
Before pandemic:	2.79(.41)	2.62(.49)
poor	0	0
average	6	11
good	23	18
During pandemic:	2.52(.57)	2.52(.51)
poor	1	0
average	12	14
good	16	15
The educational functioning according the average grade according adolescent:		
Before pandemic	4.46(.53)	
During pandemic	4.5(.51)	
Experience of distance work before pandemic:		
Never work online before pandemic	25	
Occasionally (1-2 times per month)	1	
Very often (every day)	3	

The study procedure used the qualitative and quantitative method. The qualitative part of the study based on two open questions for parents about their adolescent children's educational functioning during the COVID-19 pandemic, e.g. (1) Does distance learning require more attention/control from adults (teacher/parent) over the educational process. If yes, please give some examples. (2)What causes the main difficulties due to distance learning during the COVID-19 pandemic? Adolescents answered only the second question.The quantitative studies relied on measurable data collected online from parents and adolescents.The teachers, via email, informed adolescents and their parents about the research objectives and the measurement procedure, and sent the link to the online forms on Google. The participants were assured of the anonymity of data processing and other ethical principles of

the Helsinki Declaration. The informed online consent was received from both the parents and adolescents who decided to participate in the research, and only after the participants were able to fulfil the set of questionnaires. The parents were asked to complete three sections: (1) sociodemographic characteristics; (2) information about the level of student burnout of their offspring – the observation scale of student burnout symptoms for parents and teachers (SBO); and (3) information about the parents' mental health and occupational functioning measured by: mental health scale (GHQ-12); the Flow at work scale (Flow-W); and online job burnout scale (EJB). The adolescents also fulfilled three sections of the study: (1) sociodemographic characteristics; (2) school achievements information; and (3) mental and educational functioning characteristics measured by: well-being scale (PWB), online student burnout scale (ESWS).

The observation scale of student burnout symptoms for parents and teachers (SBO) by Tomaszek and Muchacka-Cymerman is a short tool to assess the presence (or absence) of 11 student burnout symptoms e.g. lack of enthusiasm and energy to learn, irritability and nervousness appearing during conversations about school duties, anxiety related to school tasks, negative beliefs about own school skills, the belief about "being" a worse student than others, lack of engagement in school duties (negligent performance of tasks, study weariness and anhedonia etc. The parents had also the option to add a symptom that was not listed.

Online student burnout scale (ESWS) is a short experimental tool, consisting of 22 items, for measuring the students' burnout with online learning developed by Tomaszek and Muchacka-Cymerman (2022). The participants judge the items that best describe their feelings, thoughts, and relationships in the last year byanswering on a 5-point Likert scale (1 – I completely agree, 5 – I completely disagree) (e.g. *Online learning makes me tired of studying more often*). 5 items are reversed (e.g. *Since I am learning via the Internet, I have a more positive attitude towards the lessons*). The Alfa Cronbach's for the total score was equal to .89.

The Short General Health Questionnaire (GHQ-S) by Goldberg and Williams (1998) in the Polish adaptation Frydecka et al. (2010) is a 12 item method for detecting psychological distress in non-clinical samples. The participants answer questions that start with the question: *Have you recently…?*on a 4-point Likert scale about the present and recent complains (e.g.*beenable to concentrate on what you're doing*). The reliability in this study α=.75).

Psychological Well-Being Scale (PBW-S) developed by Ryff in the Polish adaptation Karaś and Cieciuch (2017) measures 6 aspects of well-being and happiness: autonomy, environmental mastery, personal growth, positive relations with others, purpose in life and self-acceptance. The 18 items are rated on a 5-point Likert respond scale (1 – strongly agree; 5 – strongly disagree) (e.g. *Maintaining close relationships has been difficult and frustrating for me*). The reliability of the total score was equal to.81.

Flow at work scale(Flow-W) developed by Wolfigieland Czerw (2017) is a 15 item method to capture short-term peak experiences characterised by absorption, work enjoyment, and intrinsic work motivation (e.g. *My work gave me many positive emotions*) rated on a 5 point scale (1 – never; 5 – very often).Reliability was equal to α=.92.

Online job burnout scale(EJB) developed by Tomaszek and Muchacka-Cymermanconsists of 18 items that measure psychological and physical e-work exhaustion, loss of interest and disappointment with online work, social conflicts with co-workers and family (e.g.*Online work tires me a lot*). The reliability of the scale was equal to .85. On the basis of the EJB scale, two subgroups of parents were divided e.g. Parents without symptoms of online work burnout (N=16, M=8.50) and Parents with symptoms of online work burnout (N=13, M=23.00). The Mann-Whitney U comparison test comparison test confirmed significant differences in the level of online job burnout between these two samples (z=-.4.60, p<.0001).

Data analysis

All statistical analyses were completed using the Statistical Package for the Social Sciences (SPSS) for Windows v.22 software (IBM Corp. Released 2013. Armonk, NY, USA).The total sample size required for Spearman analysis was calculated with G*Power softwere and was equal to 21 subjects for conditions: α (Type I error rate) =.05; ß power (Type II error rate) =.80; Effect size equal to .50. The interpretation of Spearman rank order correlation coefficients based on Dansey and Reid (2004) guidelines: rho between 0.2-0.29 means weak relationship; 0.3 – 0.39 moderate relationship; 0.4-0.69 strong relationship, and 0.7 and above very strong relationship. In addition, exact Mann-Whitney U test is recognized to be valid with small sample sizes (<20) and extremely small sample sizes (i.e. 6) (Siegel, Castellan, 1988).

Results

Descriptive statistics for allthe studied variables are presented in Table 2. Most scales had normal distribution. The significant Shapiro–Wilk test in EJB scale, GHQ-S scale, and External regulation subscale of WEIMS indicated that these continuous variablesdo not follow a normal distribution; therefore, nonparametric Spearman analysis was calculated.

Table 2. Descriptive statistics of the quantitive variables measured in the study (N=29)

Variables	Min.	Max.	M	SD	Skew-ness	Kurto-sis	α	S-W
Parents' online job burnout	21.00	74.00	41.17	12.82	.90	.13	.85	.89*
Parents' mental health	21.00	45.00	28.59	4.92	1.00	3.58	.75	.86**
Parents' flow at work	15.00	71.00	48.00	11.60	-.40	1.42	.92	.96
Students' psychological well-being	49.00	82.00	65.62	8.69	-.07	-.67	.81	.98
Online student burnout perceived by students	43.00	95.00	67.93	13.45	.13	-.80	.89	.98

Note: S-W – Shapiro – Wilk test of normality

Parents' perception of online schooling during pandemicCOVID 19:The parents answered three questions about the online school learning during the COVID-19 pandemic. Most participants disagree that distance learning requires more attention/control from adults (teacher/parent) on the educational process (N=18). However, some parents stated that online learning was related to greater supervision over the student's work through additional checking of knowledge, notebooks, materials, reading the child's work, questioning, checking grades and activity during lessons, checking attendance at the lesson through the online diary or additional tutoring. Parents were also asked what causes the main difficulties due to distance learning during the COVID-19 pandemic. They reported difficulties in focusing on lessons, lack of motivation, boredom, and fatigue, difficulties related

to long hours spent in front of the computer without a chance to do any physical activity, more tasks and homework lack of face-to-face contact with classmates and teachers, technical difficulties with the Internet, difficulties in understanding teachers' instructions, problems with work organising at home, which was caused by lower control over the children's learning process. Some parents also stated that online learning is less effective because teachers are not able to properly and systematically check students' knowledgee.g."-Regularity difficulties. Teacher control during distance learning is less, which can be demotivating." or "Student learning amotivation – tests are fictional, because you do not have to prepare for them". Only 4 parents answered that online learning did not cause any additional educational problems.

Adolescents' perception of online schooling during the COVID-19 pandemic:The same question, namely difficulties caused by online learning, was given to the adolescent. Most students reported difficulties in focusing on lessons and technical difficulties with the Internet. The third difficulty was related to tiredness caused by long hours spent in front of the computer with lack the chance for physical activity. One student stated that "The main problem is too much responsibility for students by some teachers, because there is a belief that when a student stays at home, he/she has a lot of time to work after school; unfortunately it is not so colourful, because in online classes breaks are much shorter, after prolonging some classes, and after classes I spend even more time on tasks than before the pandemic, which causes a lot of disorganisation and fatigue."

Student burnout symptoms perceived by parents(SBO scale): The most often reported burnout symptoms perceived by parents were: lack of enthusiasm and energy to learn (67.6%), a constant feeling of exhaustion when having to learn (55.9%), study weariness (53%) and irritability and nervousness of the adolescent appearing during conversations about school duties (50%). The least common of the student burnout symptoms was a belief about "being" a worse student than others (23.5%) and loss of joy (sadness, anxiety) when the child is about to start lessons (26/5%). Six parents did not observe any symptom of student burnout. Two parents reported symptoms that were not listed e.g. no contact with classmates and fear of going back to school for "normal" classes (see Tab. 3).

Table 3. Frequencyof student burnout symptoms observed by 29 parents

The list of perceived burnout symptoms	N	%
1. No burnout symptoms	6	17,6%
2. A constant feeling of exhaustion when having to learn	19	55,9%
3. Lack of enthusiasm and energy to learn	23	67,6%
4. Irritability and nervousness appearing during conversations about school duties	17	50%
5. Anxiety related to school tasks	12	35,3%
6. Negative beliefs about your own school skills	10	29,4%
7. Belief about "being" a worse student than others	8	23,5%
8. Lack of involvement in school duties (negligent performance of tasks)	11	32,4%
9. Loss of joy (sadness, anxiety) when the child is about to start lessons	9	26,5%
10. Study weariness	18	52,9%
11. Lack of interest in acquiring knowledge	14	41,2%
12. "Lowering the bar" regarding educational goals, such as the level of grades, the study field	14	41,2%
13. Other	2	6.9%

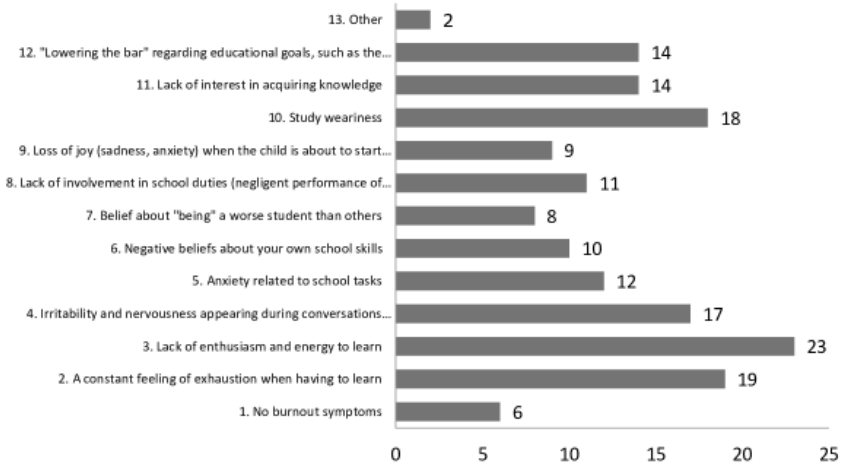

Figure 1. Frequency of observed student burnout symptoms

Parents' work and mental health relationship to school and mental functioning of their adolescent children (Spearman correlation analysis): The symptoms of burnout perceived by parents correlated positively with the higher level of online student burnout from the students'perspective (*rho* = .48, p <.001, strong relationship) and negatively with the low student psychological well-being (*rho* = -.36, p <.05, moderate relationship). The parents' job burnout correlated positively with parents' mental health problems (*rho* = .38, p <.05, moderate relationship). Online school burnout

perceived by the students correlated negatively with the students' psychological well-being (*rho* = -.24, p <.001,weak relationship). The rest correlations were insignificant (see Tab. 4).

Table 4. Spearman correlation analysis (N=29)

Variables	1	2	3	4	5	6
1.Student burnout symptoms perceived by parents	-					
2. Online student burnout perceived by students	.48**	-				
3. Parents' online job burnout	.11	-.12	-			
4. Parents' mental health	-.08	.23	.38*	-		
5. Students' psychological well-being	-.36*	-.24**	-.25	-.31	-	
6. Parents' flow at work	-.11	.02	-.05	-.05	.13	-

**p<.001; *p<.05

Additional analysis conducted separately in the group of parents without online work burnout symptoms revealed only one significant correlation between online student burnout perceived by the students and student burnout symptoms perceived by the parents (*rho*=.69, p<.001, very strong relationship). The Spearman analysis conducted in the group of parents with online work burnout symptoms also confirmed significant relationships between the above-mentioned variables (*rho*=.58, p<.05, very strong relationship). Online student burnout perceived by the students also correlated positively with the parents mental health problems (*rho*=.70, p<.001, very strong relationship). In summary, H1 was fully confirmed, H2 was rejected, while H3 was partially confirmed.

Discussion

The present study attempts to address the association between parents' mental health and professional functioning and students' online school burnout and well-being. In particular, it seeks the answer four study questions.

The first question was focused on the main online learning difficulties from the parents' and adolescents' perspectives. The results suggested that although traditional and online learning do not differ in the level of adult monitoring, the process of children's learning is related to several difficulties. Both parents and adolescents named two main difficulties – technical problems with the Internet and difficulties in focusing on lessons. In addition, the third problem connected to online learning was physical and mental tiredness. In the last year, numerous past studies have confirmed the education crisis caused by the COVID-19 pandemic. Rasheed et al. (2020), Barot et al.

(2021, p. 5) grouped specific learning challenges caused by distance learning into five general categories:

1. self-regulation (SRC) – behaviors by which students exercise control over their emotions,actions, and thoughts to achieve learning objectives,
2. technological literacy and competency (TLCC) – challenges about students' ability to effectively use technology for learning purposes;
3. student isolation (SIC) – emotional discomfort that students experience as a result of being lonely and secluded from their peers;
4. technological sufficiency (TSC) – challenges that students experience when accessing available online technologies for learning;
5. technological complexity (TCC) – challenges that students experience when exposed to complex and over-sufficient technologies for online learning.

Barot et al. (2021) extend this classification by adding two additional clusters:

1. learning resource challenges (LRC) – challenges that students face relating to their use of library resources and instructional materials;
2. learning environment challenges (LEC)–challenges that students experience related to the condition of their learning space that shapes their learning experiences, beliefs andattitudes.

From the ecological perspective, the COVID-19 pandemic caused changes in the school environment by increasing psychological, emotional, social, and organisational demands. Organisational challenges that students and teachers had to face are related to school closures e.g.the lack of equipment to participate in courses, being unable to access online materials from home, and being unable to leave home for a long time (Apriyanti, 2020). Our findings also pointed to the cognitive demands related to concentration and physical tiredness caused by spending long hours in front of a screen. These difficulties may also be included into the self-regulation category mentioned above. We also found mental tiredness as one of the obstacles that students and parents pointed out. In our opinion, it may partially be related to an increase in emotional and social demands, and to emotional discomfort related to social isolation from the Rasheed et al. classification.

The second study question focused on the parents' knowledge about their children's burnout symptoms levels and the correlation between parents' and adolescents' judgements on school burnout. The findings suggest that

parents were focused on emotional aspects of school burnout symptoms e.g. lack of enthusiasm and energy to learn, a constant feeling of exhaustion, study weariness, irritability and nervousness. The results confirmed that the symptoms of burnout perceived by parents correlated positively with the higher level of online school burnout from the students' perspective (H1 was confirmed). The symptoms of burnout perceived by parents also correlated negatively with low student psychological well-being. Haller and Novita (2021) stated that because of the COVID-19 pandemic and the cutoff of face-to-face schooling, parents had to act as their children's home-schooling tutors while working from home, and had to be more actively engaged in their children's learning programmes. According to the authors, the parents' perceptions of schools is a central indicator for assessing school quality, and during school lockdown parents' school satisfaction may be reflected as the school's ability to adjust and react to fast social changes. Hence, the authors claimed that parents' well-being is a key element in their assessment of a school. Moreover, a good-quality parent-teacher relationship is linked to the high academic performance of children (Hughes, Kwok, 2007). Haller and Novita (2021, p. 11) also found that 'parents' lower access to temporal, social, and cultural resources with relevance for home schooling had a negative effect on parents' satisfaction with the school during the lockdown. As the parents were not well-equipped with the capabilities needed for home schooling, they may have felt (or come to feel) overburdened. This can lead to lower satisfaction with the school." Our findings are in line with these results, as theysuggest that parents may play a crucial role in online schooling– not only as the resource of educational support but also as the source of information about the educational emotional depletion of their children.

The third study question explored the correlations between parents' online job burnout and students' online school burnout. The results did not confirm the significant associations between these psychological characteristics (H2 was rejected). There are few studies that have analysed the associations between the occupational functioning of parents and the educational performance of their children. However, many past studies described indicators of parents' functioning related to their profession. For example, parents' high education level and socioeconomic status were predictors of their children's positive mental health, although it differs when viewing the combinations of children and parents' sexes (Fakhrunnisak and Patria, 2022). Fakhrunnisak and Patria (2022) found three important regularities: (1) a father's higher education had a positivelongitudinal effect on children's happiness, but nota mother's education; (2) a father's education has

longitudinal effect on a daughter's depressive symptoms; (3) a mother's education has a different effect on sons and daughters. These findings suggest more complex multi-factorial relations between parents' characteristics related to their professions and their children's functioning. In our studies we did not control these aspects, which might have resulted in insignificant correlations.

The fourth and last question examined the parents' mental health problems and occupational functioning associations to their children's school burnout and well-being. Parents' job burnout correlated positively with parents' mental health problems. The findings did not confirm the significant relations between parents' occupational functioning and adolescents' online burnout. Parents' mental health problems correlated positively with online school burnout perceived by students only in a group of burned-out parents (H3 was partially confirmed). Despite the fact that the strong connections between positive family environment (microsystem) and children's mental health are supported by many theories and researchers, little is known about the associations between parent's mental health and their children's burnout symptoms and well-being. Past evidence has suggested that parental mental issues has a powerful impact on children's schooling, especially school dropout syndrome and subsequently on their adult lives (Farahati et al., 2003). Recently conducted studies by Costantini, et al. (2022) revealed that negative parenting was associated with parents' higher dysregulation and lower self-esteem and both these conditions dependently predicted adolescents' Problematic Social Network Site Use. The Farahati et al. (2003) study also revealed that the parent's mental health problems have a more detrimental effect on girls, namely that girls' schooling compounds the greater earnings and employment losses due to mental illness borne by adult women. A recent study conducted by Wolicki et al. (2021) also confirmed that a child's healthy development depends on their parents mental health. The authors found that 1 in 14 children has a poor mental caregiver, and those children were more likely to have poor general health, to have adverse childhood experiences such as exposure to violence or family disruptions, including divorce, and to be living in poverty. Similarly, Ayano et al. (2022) found that maternal anxiety symptoms and paternal emotional problems are associated with poor educational attainment and achievement in adolescent offspring. Hence, according to the authors support for parents and their mental health should be a critical public health priority.

Our results indicate that the adolescent online school burnout level is related to the severity of adverse parents' health outcomes. Therefore, effective ways of implementing mental health prevention programmes are

seeking to decrease the everyday distress and job and school fatigue for bothadolescents and their parents. These results suggest that by including the whole family system in active health-protective programmes, we may increase the effectiveness of diminishing job and school burnout symptoms and promote a supportive family background.

Limitations

The current study was more exploratory in nature due to the lack of similar analyses in the student burnout literature; therefore, the results should be treated as an introduction to further research in this field. The conclusions drawn from the findings described above are limited due to several reasons. The potential bias resulting from a small study sample does not allow for generalising the current findings to a population. The time of the Covid-19 pandemic caused direct access to parents and teenagers to be impossible. For this reason, the research was based on sending online invitations via schools. One such form did not allow for a thorough explanation of the importance of research to parents and students or for answering their doubts and fears. Perhaps this is why so few parents decided to participate in the survey. Thus, it is worth repeating the research by using the paper and pencil data collecting method, which will allow to obtain a larger study sample with more diverse characteristics. Moreover, the question about the associations between parents' job burnout and adolescents' school burnout remains unresolved. Next, the current project is based on new measurements of burnout syndrome e.g. SBO scale was developed to fill in the gap in the literature;according to our knowledge, no instrument allows for the capturing of others' perspectives on children's school burnout. Because, in SBO, the parents rated each symptom by marking their presence, the results did not allow to test the reliability of this scale. However, the current pilot results are very promising, therefore possible replications using the SBO scale will be carried out on the Likert response scale. The next limitation is represented by the time of the data collection, namely the COVID-19 pandemic that was related not only to online schooling stressors but also to additional traumatic stressors e.g. life-threatening by SARS-Cov-2 and the dramatic change in lifestyle of either young and adult people. Similarly, it may be difficult to accurately determine burnout symptoms when co-occurring mental disorders and social problems co-exist,e.g. PTSD, job loss, forced isolation, etc.

However, the primary aims of this study were to explore the family dyads (mother–adolescent or father–adolescent) perception of student burnout, and the relationship between parents' mental health and occupational

functioning and students' school burnout and well-being. The study goals did not allow to control variables that might have been important to the results e.g. the socio-economic status of the families (e.g. family structure, parental education, family income, siblings); hence, future studies need to include these confounding factors in their analyses. Finally, because of the very low parents' response rate (17%), we are hesitant to generalise our results, for instance those parents who participate in an online study may be characterised by fewer mental health problems than those who ignore the study invitation. Thus the replication of this research is recommended.

Conclusions

Students who are aware of the problems arising from remote teaching are better able to cope with emergency situations. Our study also revealed that parents' knowledge in this area may be an important source of information about the educational health of their children. Awareness of ways to reduce tension/work overload is an important part of reducing burnout or permanent stress. Our results are consistent with the previous findings of researchers indicating that teachers should conduct online lessons in a more activating, less theoretical format. In addition, not only teachers but also parents should be aware of how the COVID-19 pandemic has affected the educational and mental functioning of adolescents,which would affect their vigilance when interviewing them. An important aspect in a child's functioning is not only cognitive and physical development, but especially social and emotional development. Classes focused on teamwork (team-based learning, among other things) would be a very good way to promote group integration. Since a parent can project (Sieff, 2019; Winnicott, 2008) his or her emotional states (especially the negative ones) onto the child, workplaces should pay attention to employee fatigue and conduct workshops on strategies for coping with stress and prolonged tension. In addition, parents should be aware that their frustrations and expectations in a moment of crisis (not only related to the COVID- 19 pandemic but also to the child's development) can bring negative consequences for the child's educational functioning, e.g. burnout, loss of interest in school, but also depression, self-injury, addiction or eating disorders.

The school in such extreme emergency situations must provide its students with anonymous, comfortable access to a psychologist/educator. In addition, cooperative prevention and mutual vigilance to the emotional states of others should be mandatory in school classrooms.

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